Leandro **Risso Venâncio**

PhD Student in Physics · · · M.Sc. in Engineering · · · B.Sc. in Physics Engineering

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Education

University of Queensland & University of Exeter
Queensland, Australia & Exeter, UK

PhD in Physics — *Jan 2025 – Present*

- **Thesis:** Machine learning with optical wave propagation in disordered media
- **Research Areas:** Optical Computing, Machine Learning
- Fully funded by the **prestigious QUEX Joint PhD Program**, a collaborative initiative between the University of Queensland and the University of Exeter

ESPCI Paris - PSL
Paris, France

M.Sc. in Engineering — *Aug 2021 - Aug 2023*

- **Focus:** Physics & Computer Science
- **Relevant Courses:** Applied Statistics, Numerical Methods, Numerical Simulation, Advanced Topics in Deep Learning (PyTorch), Advanced Programming (C++), Waves and Light-Matter Interactions, Quantum and Relativistic Enginnering
- Awarded an **Excellence Scholarship** by the prestigious ESPCI Fonds
- **GPA:** 4.0 / 4.0

UFSCar (Universidade Federal de São Carlos)
São Carlos - SP, Brazil

Bachelor's degree in Physics Engineering — *Mar 2018 - Nov 2024*

- Participant in the ParisTech **Double Degree Program** in partnership with ESPCI Paris - PSL, awarded with **Academic Excellence Scholarship**.
- **Relevant Courses:** Computational Physics (MATLAB and Fortran), Mathematical Physics, Linear Algebra.
- **GPA:** 8.46 / 10

Work & Research Experience

BTG Pactual
São Paulo, Brazil

Full Stack Developer — *Nov 2023 - Dec 2024*

- Developed automated solutions for back-office tasks related to Cryptocurrency, Investment Funds, and Foreign Exchange (FX)
- **Technologies:** Python, ReactJS, Amazon AWS, PostgreSQL
- Generated **over 220 hours of efficiency** in internal processes

Massachusetts Institute of Technology (MIT), MetaConscious Group
Cambridge, USA

Modeling Neural Activity in *C. elegans* using Advanced Neural Networks — *May 2023 - Nov 2023*

- Investigated **scaling laws** in neural network models (PyTorch) to predict neural activity in *C. elegans*: collected and standardized open-source datasets, built the model training pipeline, and performed automated data analysis.
- **Research Output:** Q. Simeon, **L. Venâncio**, M. A. Skuhersky, A. Nayebi, E. S. Boyden, and G. R. Yang, *"Scaling Properties for Artificial Neural Network Models of a Small Nervous System,"* bioRxiv, 2024, doi: 10.1101/2024.02.13.580186. Available: `https://www.biorxiv.org/content/early/2024/03/06/2024.02.13.580186`
- Led the majority of experimental work, including designing and executing experiments, generating figures, drafting the initial version of the experimental methods section, and developing the model training infrastructure on the computing cluster.

LightOn, Hardware Division
Paris, France

Thermal Characterization and Performance Enhancement of the Qore Quantum Optical Processor — *Jul 2022 - Dec 2022*

- **Field of Research:** Optical Computing, Quantum Optics, Quantum Computing, and Fiber Optics
- Improved overall processor prototype efficiency by 30%
- Achieved **record-breaking performance** metrics for the experimental setup by locally stabilizing its temperature, increasing measurement robustness by 20%

Language Skills

Portuguese	Native
English	TOEIC - C1: 940/990, TOEFL iBT - C1: 108/120
French	TFC - C2: 606/699
Spanish	Intermediate professional proficiency